UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

VIA EMAIL AND FEDERAL EXPRESS

Mr. Donald W. McLeod
Director of Operations
Miller Springs Remediation Management, Inc.
2480 Fortune Drive, STE 300
Lexington, KY 40509

May 11, 2001

Re: Transmittal of EPA's Final Approval with Comments for the December 15, 2000 Phase II RFI Report Addendum/Response Package; Occidental Chemical Corporation, Delaware City, Delaware RCRA Facility

Dear Mr. McLeod:

EPA has completed its review of the responses provided in the December 15, 2000 Phase II RFI Report Addendum and Response to Comments package for the Justification for a Future Non-Residential Use Scenario Report submitted by Glenn Springs Holdings, Incorporated on behalf of the Occidental Chemical Corporation Delaware City, Delaware facility. Based on our review, we found that the majority of our concerns had been addressed in a satisfactory manner. Therefore, EPA is pleased to issue our final approval of the Phase II RFI Report and Addendum package as well as the Justification for a Future Non-Residential Use Report. Please note that EPA will consider the final Phase II RFI Report for Occidental Chemical to include the May 28, 1999 Phase II Report, the December 15, 2000 Phase II RFI Addendum/Response package, and this letter.

EPA also identified several issues that require further clarification in order to ensure that the corrective action project is completed in an efficient manner that will meet both the Agency's and Occidental's goals and expectations. Please review the issues and comments detailed below, and contact EPA to discuss your preferred approach for moving forward. Since many of these issues relate to the various Interim Measures that have been identified for the site in the November 7, 2000 Meeting Summary letter from Occidental and the March 9, 2001 Bimonthly Progress Report (Figure 1 - Interim Measures Schedule), it may be more appropriate and efficient to address these concerns in conjunction with the various IM Workplan and Design submittals. Please also note that several comments provided below request additional information to address EPA's concerns about the elevated detection limits that were observed in many of the Phase II RFI samples. Please review the following comments and contact me at your convenience.

1. General Response, page 3 of 67- The last sentence in this section does not include any reference to the routine inspections that Occidental proposed to conduct in an effort to identify leaks or maintenance needs for the Standard Chlorine/Metachem pipeline. This proposal was discussed during our November 2, 2000 meeting, and a provision was included for this task as part of the Interim Measures Schedule submitted to EPA on March 9, 2001. Please note that EPA expects to receive information regarding the frequency, scope and findings of these inspections as part of the

routinely submitted Bimonthly progress reports for the Occidental project. Since no workplan or design submittals are indicated for this activity on the March 9, 2001 IM Schedule, EPA believes that this should provide an effective approach for communicating the progress and findings of this IM task.

2. Response 7 - This response still does not acknowledge that an appropriately protective final remedy must be selected and implemented for the total area of subsurface mercury contamination as part of the Corrective Action project. Please note that this will be required to meet the Agency's goals for the RCRA Corrective Action program.

OxyChem's proposed SOP for the process area must include procedures for confirmatory sampling and analyses. OxyChem will then be able to use this qualitative data to move the site toward the final cleanup goals when conditions permit. As EPA stressed during our November 2, 2000 meeting, it will be necessary to delineate or approximate the areal extent of known (or suspected) subsurface mercury contamination in order to implement an effective institutional control as part of a final remedy for the site. Please include some provision for this task in the proposed Process Area Soil SOP to be submitted for EPA's review by June 18, 2001.

3. Response 9 - The response provided did not fully address EPA's comment regarding the Metachem/Standard Chlorine pipeline. Please clarify or confirm whether Occidental will evaluate all data collected to date relative to the characterization of the Standard Chlorine pipeline and it's role as a potential source area, as Occidental previously indicated in the March 13, 1998 response letter.

EPA disagrees with the statements made in this response (bottom of page 11) regarding Phase II RFI samples SB-12 and 13. The sample collected from SB-13 does not represent releases from the Metachem Pipeline since it is a surface sample (0-2 feet). That sample detected 1,4 dichlorobenzene and 1,3 dichlorobenzene in excess of 0.1 times the industrial screening level, and 1,2,4 trichlorbenzene in excess of the residential soil screening level. Therefore, it appears that this area may have been impacted by a surface release. At a minimum, OxyChem, must propose additional surface sampling to determine the extent of this release area. The Groundwater IM proposed by OxyChem will not eliminate surface exposures. In addition, the boring log for SB-13, which unfortunately was terminated at 8 feet, indicates significantly elevated PID readings. This finding, coupled with the elevated concentrations detected and observations of staining in SB-12, suggests that there is also a potential subsurface source related to the pipeline. OxyChem needs to address subsurface sources not only to minimize the transfer of contamination to groundwater but also to eliminate potential risks to construction workers. In order for EPA to determine whether containment is an appropriate approach for this subsurface source, OxyChem will need to know the extent and location of this source. The agency needs this information to determine whether removal is viable option. Removal provides more reliability in the long-term than a containment system. We also need to know if the containment system can be aligned to contain this source area. Given the proximity of this area to the marsh, an IM for this area, which includes the additional required investigational work, should become a high priority. Please contact EPA if you would like to discuss this matter in greater detail.

4. Response 10 - This response again does not acknowledge that an appropriately protective final remedy must be selected and implemented for the subsurface source areas as part of the RCRA Corrective Action project. The statement that "The potential plant source areas cannot be addressed until Plant closure" will not be acceptable in the context of a final remedy decision for the project. Please see EPA's comments above for response 7.

5. Response 15 - EPA does not agree with OxyChem's conclusion that the contaminants found in well A-17 are ubiquitous in the aquifer. We hypothesize that these constituents are most likely either a result of cross-contamination during a previous sampling event at A-17, or have migrated from other areas where there is a connection between the Columbia and Potomac aquifers. Boring logs from the nearby Standard Chlorine site indicate that the clay separating the Columbia and Potomac is not laterally continuous. In addition, downward gradients resulting from ubiquitous Potomac pumping would pull contamination downward. The effects of Potomac pumping are evident on the OxyChem site. A review of vertical gradients at the site, indicates downward gradients at a majority of the Columbia wells and a strong downward gradient between the Columbia and A-17 Potomac well. In addition, piezometers in Red Lion Creek all show water elevations below mean sea level suggesting that Red Lion Creek is a losing stream. However, given that the concentrations detected during the sampling event were quite low, EPA is not requiring additional sampling or work in the Potomac at this time. EPA is requesting that OxyChem not abandon the well because of the potential for connection between the two aquifers, as demonstrated by the Standard Chlorine/Metachem site and Red Lion Creek data.

6. Response 23 - Please provide EPA with the "typical" range of analytical variability that is referenced in this response. If this information is provided in the Phase II Report, please identify which section or appendix.

7. Response 26 - The response to this comment states that the detected VOCs (1,2-dichloroethane and tetrachloroethene) are not fingerprint chemicals for the site. However, according to Table 3-5 (Summary of Detected Chemicals for Phase II Groundwater Samples), both 1,2-dichloroethane and tetrachloroethene were detected in Waste Lake 1 wells. Tetrachloroethene was also detected in Chemfix Test Unit wells, Process Area wells, a New Brine Sludge Landfill well, and Metachem Pipeline groundwater. This would seem to indicate a connection between the Columbia and Potomac formations, and is not supportive of "no further work" for the Potomac. Please see EPA's comments above for response 15.

8. Response 31d - Please note that EPA will provide OxyChem with surrogate human health-based screening values for chemicals that are lacking those values. This information will be provided if and when we need to revisit available site data for the purposes of human health screening conducted in conjunction with Interim Measures activities, the risk assessment process, or completion of Environmental Indicators worksheets for the site.

9. Responses 36c and 36d - The response provided for these comments does not adequately address EPA's concerns regarding the elevated detection limits that were observed for several

Phase II RFI samples. The response to this comment first states that OxyChem will accept these chemicals as being a special category to be carried forward as constituents of concern. However, the maximum detected mercury concentration for the Metachem Pipeline (2.7 mg/kg) already establishes mercury as a COC. Secondly, this response states that "It does not seem useful to ignore good data and base screening results on the least useful data in an extensive data set." However, a total of four soil samples for the Metachem Pipeline cannot reasonably be considered an extensive data set. It would be more helpful if OxyChem would provide the reasons for the large elevations in the SB-13 soil sample mercury detection limit and the SB-11 soil sample antimony detection limit. Please provide this information to EPA. See additional comments provided for Response 37, below.

10. Response 36e - The response provided for this comment does not adequately address EPA's concerns regarding the elevated detection limits that were encountered for many Phase II samples. Twenty percent of the Stormwater Drainage Channel and Outfall sediment data had substantially elevated detection limits. OxyChem should determine the reasons for these elevations and provide EPA with this information. If the reason was a need for dilution, serial dilutions should have been conducted (and provided to EPA) to provide more accurate results for the SVOCs. See additional comments provided for Response 37, below.

11. Response 36h -This response did not answer a portion of the original comment, which requested a description of the current condition of Waste Lake 2, regarding habitat, ecological receptors, and the likelihood of the surficial soils to be inundated or drain to submerged aquatic areas. Please provide this information to EPA.

12. Response 37a - The response provided for this comment does not adequately address EPA's concerns regarding the elevated detection limits observed in the Waste Lake 1 groundwater data. Twenty percent of the Waste Lake 1 groundwater data had substantially elevated detection limits for certain VOCs. It would be more helpful if OxyChem would provide the reasons for these elevations. Please provide this information to EPA. See additional comments provided for Response 37b, below.

13. Response 37b -The response provided for this comment does not adequately address EPA's concerns regarding the elevated SVOC detection limits observed in the data for well A-37S. OxyChem should provide the reason for the SVOC elevated detection limits for the A-37S groundwater results. Please provide this information to EPA. Please also note that EPA will continue to use the concentrations (1/2 detection limit) cited in our November 22, 2000 comment letter (#s 36, 37, 45) as maximum concentrations until such time that OxyChem can provide us with additional information on the reasons for the elevated detection limits.

14. Response 40b - The point of EPA's original comment regarding the SD-1 elevated TOC was not that it might be due to some sampling anomaly. The point is that the upgradient and site-associated sediment samples are not directly comparable due to the difference in TOC concentrations.

15. Response 42a and 42b - EPA did not validate the split data for SW-8. However, EPA will still consider our split results when evaluating the surface water data for the site, due to the following: the disparity between EPA's and OxyChem's mercury and thallium results, and the unusual filtered and unfiltered inorganic results for SW-8, for which no explanation was provided.

16. Response 45b - The response provided for this comment does not adequately address EPA's concerns regarding the elevated VOC detection limits observed in the data for marsh core C23. OxyChem should provide the reason for the VOC elevated detection limits for the C-C23 marsh core results. See additional comments provided for Response 37b, above.

17. Response 48c - Regarding the consistency of mercury sediment concentrations between the background and site-related Red Lion Creek locations, this response states that a more valid comparison is of the average and/or range, and that "The range of concentrations for the downstream samples encompasses the upstream sample, suggesting that the upstream sample is 'consistent' with the distribution of values found downstream." EPA agrees that ranges and averages are better for comparability, assuming an upgradient average and range is available. It would be unusual for the single upgradient result not to fall within the large downstream range (0.07 - 139 mg/kg).

Please clarify what is meant by the use of the term "representative", as it is used in the fourth paragraph of this response. The unfiltered piezometer and surface water results indicate water concentrations influenced by particulates, both of which are ecologically relevant. In our original comment, EPA requested OxyChem to include the unfiltered results on Figure 5-2 since these values are relevant for evaluating ecological impacts and as evidence of ongoing releases to the environment. Please clarify why OxyChem believes that the unfiltered data is not as "representative" as the filtered results, as stated in this response. Please also note that since OxyChem did not agree to revise Figure 5-2, as requested, EPA will modify our copies of Figure 5-2 to include the unfiltered data.

18. Response 55 - OxyChem is correct to state that the contaminated soils at SB-12 and SB-13 do not intercept the Columbia aquifer. However it is not clear that deeper contaminated soils in the vicinity of locations SB-12 and 13 are not in contact with the Columbia aquifer, because OxyChem terminated the borings prematurely. As stated previously, OxyChem must conduct additional investigation of this potential source. Please include this task in the data collection activities associated with the Groundwater IM Workplan.

19. Response 56 - OxyChem states that they **believe** shallow groundwater beneath Waste Lake 2 is perched. However based on a review of the Table 3-2 , groundwater elevation data from the Phase II RFI Report, this is not conclusive. In fact, data from the A-32 wellnest seems to have typographical errors because the well monitoring the perched zone indicates lower levels than the well monitoring the deep. Please provide EPA with a cross-section showing the base of Waste Lake 2 and water elevation data to support the conclusions stated in the Phase II Report. Please also review Table 3-2 for typographical errors, and make any necessary revisions. Please also

note that, even if OxyChem is correct in stating that the recent sediments serve as a barrier to reduce vertical migration, the perched water would ultimately discharge to the marsh.

20. Response 59b - The response provided did not address EPA's original comment. None of the information provided in responses 48c and 48f addresses EPA's concerns about the mercury results for Red Lion Creek, or our request to revise the conclusions stated in Section 5.2.2.4 of the Phase II RFI Report. EPA must emphasize that, based on the Phase II RFI data, we consider Red Lion Creek to be a unit of concern, and not of minimal concern as OxyChem stated on page 99 of the RFI Report. Please note that EPA may request additional characterization of Red Lion Creek in conjunction with the various IM activities proposed for the site. EPA's request for OxyChem to adequately characterize Red Lion Creek upstream conditions remains outstanding.

21. Response 61 - The need to collect additional data in this area (Process area) will be considered during our review of the groundwater Interim Measure submittal.

22. Response 63 - See EPA comments provided for Responses 9 and 61 above. Please also see EPA comments provided for Response 7, above.

23. Response 65b - EPA requests that OxyChem complete the evaluation of available information to identify a potential manganese source in conjunction with the Groundwater IM proposed for the site rather than during the Phase III Risk Assessment. We believe that this information would be helpful for designing a remedial system that would address all contaminants present in site groundwater.

24. Response 65c - Since OxyChem omitted collecting a water elevation measurement from the staff gage in Red Lion Creek, it is not possible to assess with certainty whether the stream is losing or gaining. However, the fact that the water elevations collected from the piezometers were below mean sea level suggests that the stream is losing. This could have significant implications on the OxyChem's scope of work to complete the investigation, and on our understanding of flow patterns. OxyChem must collect water elevation data from the piezometers concurrently with the Red Lion Creek staff gage to determine whether the stream serves as a groundwater discharge boundary. Please include this task in some of the upcoming IM field activities planned for the site.

This concludes EPA's remaining concerns and comments for the Phase II RFI Report and the December 15, 2000 Report Addendum/Response package for the Occidental Chemical Corporation site. Please review the issues described above and contact me to discuss your preferred approach for addressing these matters. Please also feel free to contact me if you have any questions regarding this letter, or the Occidental Chemical RCRA corrective action project.

Sincerely,

Donna M. McCartney

Donna M. McCartney (3WC23)
USEPA Project Manager

cc: R. Prince, 3WC11
D.Goldblum, 3WC23
E. Trinkle, DNREC
J. Garges, CRA (via email)